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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,459	12/03/2003	Marek W. Kowarz	86654SHS	5871
7590 Pamela R. Crocker Patent Legal Staff Eastman Kodak Company 343 State Street Rochester, NY 14650-2201			EXAMINER THOMPSON, TIMOTHY J	
			ART UNIT	PAPER NUMBER
			2873	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/01/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/726,459

Applicant(s)

KOWARZ, MAREK W.

Examiner

Timothy J. Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9-12, 15, 16, 19, 20, 22 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 13, 14, 17, 18, 21, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 28 been numbered 26. Note the claim page received on 3/15/2004 which shows the second claim 26 numbered as claim 28 is not the proper way to correctly change the number. An amendment must be filed. For purposes of speeding up the examination process misnumbered claim 26 will be treated as if it were number 28.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et. al(U.S. Pat. No. 6,215,579) in view of Hung et. al(U.S. Pat. No. 6,724,125).

Regarding claim 1, Bloom et. al discloses; a light modulator having at least three linear arrays of light modulating devices on a common substrate(col 8, lines 10-20 additionally Hung et. al disclose a light modulator as described by Bloom et al. in col 8 and thus it would have been obvious to use the light modulator of Hung et al. being it meets the requirements as described by Bloom et al.); at least one light source producing at least three colors of light for illuminating the at least three linear arrays(fig 14, 404R, G, B); a lens for creating line images of the at least three linear arrays on a display surface(fig 14, 420); and a scanning mirror for scanning the line images to create a two-dimensional image on the display surface(fig 14, 432).

Regarding claim 2, Bloom does not specifically disclose that the at least three linear arrays of light modulating devices are independently addressable. However, Hung et al. discloses using a controller that at least three linear arrays of light modulating devices are independently addressable(col 7, lines 20-35). It would have been obvious to one skilled in the art at the time of the invention to use independently control at least three linear arrays of light modulating devices as shown by Hung et. al , with the display device of Bloom et. al , since as shown by Hung et. al independently control at least three linear arrays of light modulating devices is commonly done so as to create an multicolored image.

Regarding claim 3, Bloom discloses the light modulating devices are electro-mechanical grating devices(col 8 lines 10-12).

Regarding claim 4, Bloom discloses the light modulating devices are GEM devices(fig 4).

Regarding claim 5, Bloom discloses a flexible micromirror linear arrays(fig 8b).

Regarding claim 7, Bloom discloses wherein the at least three colors include red, green, and blue(fig 14, 404R, G, B).

Regarding claim 15, Bloom et. al discloses; a light modulator having at least three linear arrays of light modulating devices on a common substate(col 8, lines 10-20 additionally Hung et. al disclose a light modulator as described by Bloom et al. in col 8 and thus it would have been obvious to use the light modulator of Hung et al. being it meets the requirements as described by Bloom et al.); at least one light source producing at least three colors of light for illuminating the at least three linear arrays(fig 14, 404R, G, B); a lens for creating line images of the at least three linear arrays on a display surface(fig 14, 420); an obstructing element for selecting the diffracted orders of light(fig 4, 426);and a scanning mirror for scanning the line images to create a two-dimensional image on the display surface(fig 14, 432).

Regarding claim 16, Bloom discloses the light modulating devices are GEM devices(fig 4).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et. al(U.S. Pat. No. 6,215,579) in view of Hung et. al(U.S. Pat. No. 6,15,579) as applied to claim 1 above, and further in view of Ouchi et al.(U.S. Pat. No. 7,170,567).

Regarding claim 11, a modified Bloom et al. as detailed in claim rejection 1 above does not disclose a plurality of parallel reflective segments for directing

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illumination of the at least three colors of light onto the at least three linear arrays.

However, Ouchi et al. discloses a plurality of parallel reflective segments for directing illumination of the at least three colors of light onto the at least three linear arrays (fig 1, 9); It would have been obvious to one skilled in the art at the time of the invention to use a plurality of parallel reflective segments for directing illumination of the at least three colors of light onto the at least three linear arrays shown by Ouchi et al. , with the display device of Bloom et. al , since as shown by Ouchi et al. a plurality of parallel reflective segments for directing illumination of the at least three colors of light onto the at least three linear arrays is commonly done so as to modulate the specific colors individually.

Claim 12, 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et. al (U.S. Pat. No. 6,215,579) in view of Hung et. al (U.S. Pat. No. 6,15,579) as applied to claim 1, 15 above, and further in view of Kowarz et al. (U.S. Pat. No. 6,567,217.

Regarding claim 12, 22 a modified Bloom et al. as detailed in claim rejection 1 above does not disclose a polarization beam splitter for directing illumination of the at least three colors of light onto the at least three linear arrays; and a quarter-wave plate for modifying polarization of the at least three colors of light. However, Kowarz et al. discloses a polarization beam splitter for directing illumination of the at least three colors of light onto the at least three linear arrays; and a quarter-wave plate for modifying polarization of the at least three colors of light (col 4, lines 25-50) stating that a

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polarization beamsplitter with a quarterwave plate is well know for optical isolation(col 4, lines 45-50). It would have been obvious to one skilled in the art at the time of the invention to use a polarization beam splitter for directing illumination of the at least three colors of light onto the at least three linear arrays; and a quarter-wave plate for modifying polarization of the at least three colors of light shown by Kowarz et al. , with the display device of Bloom et. al , since as shown by Kowarz et al. a polarization beam splitter for directing illumination of the at least three colors of light onto the at least three linear arrays; and a quarter-wave plate for modifying polarization of the at least three colors of light is commonly done so as to optically isolate wavelengths.

Claim 9, 10, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et. al(U.S. Pat. No. 6,215,579) in view of Hung et. al(U.S. Pat. No. 6,15,579) as applied to claim 1, 15 above, and further in view of Huibers(U.S. Pat. No. 2005/0111074).

Regarding claim 9,19 a modified Bloom et al. as detailed in claim rejection 1 above does not disclose wherein an electrical connection to one of the at least three linear arrays is interwoven with the light modulating devices of a different linear array. However, Huibers discloses an electrical connection to one of the at least three linear arrays is interwoven with the light modulating devices of a different linear array(fig 6B). It would have been obvious to one skilled in the art at the time of the invention to interweave the the electrical connections as shown by Huibers , with the display device

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of Bloom et. al , since as shown by Huibers interwoven electrical connections are commonly done so as to control each moving element of the entire array.

Regarding claim 10, 20a modified Huibers as disclosed in claim rejection 9 above does not disclose an electrical connection to one of the at least three linear arrays is made around a different linear array. It would have been obvious matter of design choice to use an electrical connection to one of the at least three linear arrays is made around a different linear array solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with interwoven electrical connection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 25-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation in claim 25 "providing an image data stream to each of the three independently addressable linear arrays, wherein the image data stream is synchronized according to a spatial separation between the line images of the three independently addressable linear arrays" is not described in the specification.

Allowable Subject Matter

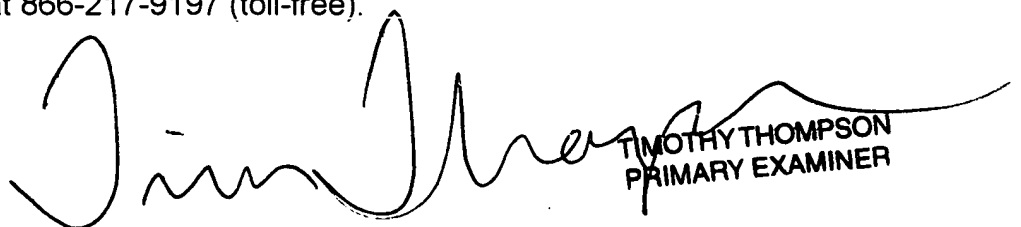
Claims 6, 8, 13, 14, 17, 18, 21, 23, 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable features being differing resolutions, a prism residing atop the at least three linear arrays.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (571) 272-2342. The examiner can normally be reached on 8:30 AM - 6:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TIMOTHY THOMPSON
PRIMARY EXAMINER